

REMARKS

This Application has been carefully reviewed in light of the Office Action mailed January 26, 2004. Claims 1-35 were pending in the Application. In the Office Action, Claims 1-35 were rejected. Claims 1-35 remain pending in the Application.

In the Office Action, the following actions were taken or matters were raised:

SECTION 103 REJECTIONS

Claims 1-3, 6, 10-11, 15, 17-20, 22-23, 25-26, and 32 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication 2003/0009099 issued to Lett et al. (hereinafter "*Lett*") and Humphreys et al., *WireGL: A Scalable Graphics System for Clusters* (hereinafter "*Humphreys*"). Applicant respectfully traverses this rejection.

Applicant respectfully submits that the Examiner has failed to establish a *prima facie* case of obviousness. For example, Applicant respectfully submits that neither *Lett* nor *Humphreys*, alone or in combination, discloses, teaches or suggests the limitations recited by independent Claim 1. For example, Applicant respectfully submits that neither *Lett* nor *Humphreys*, alone or in combination, discloses, teaches or suggests a "network compositor operable to synchronize the received pixel data from the plurality of visualization resource units [via the first network] and composite the synchronized pixel data into at least one image" as recited by Claim 1. (emphasis added).

The Examiner admits that *Lett* does not disclose a graphics application, pixel data, a network compositor, or that the compositor is operable to synchronize the received pixel data from the plurality of visualization resource units and composite the synchronized pixel data into at least one image. (Office Action, page 3). However, the Examiner states that *Humphreys* discloses these elements. Specifically, for example, the Examiner states that page 132, paragraph 3.1, left side, 5th paragraph, line 3 from the bottom, and right side, 3rd paragraph from the bottom, of *Humphreys* discloses a compositor operable to synchronize the received pixel data. (Office Action, page 3). Applicant respectfully disagrees. The

“synchronization” referred to by the Examiner in the cited portions of *Humphreys* refers to state commands for application calls made to the OpenGL API that affect the graphics state, such as `glRotatef`, `glBlendFunc`, or `glTexImage2D`. (*Humphreys*, paragraph 3.1, left column, paragraph 2, lines 1-6, paragraph 5, lines 1-15). *Humphreys* discloses, for example, that `GL_LIGHT0`’s diffuse color is a member of `GL_LIGHT0`’s state, which is an element of the lighting state. (*Humphreys*, paragraph 3.1, left column, paragraph 5, lines 9-11). *Humphreys* also discloses that each non-leaf node in the hierarchy also has a vector of *n* synchronization bits which reflect the logical OR of all its children. (*Humphreys*, paragraph 3.1, left column, paragraph 5, lines 11-13). Generally, *Humphreys* is directed toward virtualizing multiple graphics accelerators into a sort-first parallel renderer. (*Humphreys*, Abstract, lines 1-4). Thus, *Humphreys* discloses that, when running a parallel operation, each client node behaves by performing a sort-first of geometry and state to all pipeservers. (*Humphreys*, paragraph 3.1, right column, paragraph 3, lines 1-3). Thus, *Humphreys* does not disclose, teach or even suggest a “compositor operable to synchronize the received pixel data from the plurality of visualization resource units [via the first network] and composite the synchronized pixel data into at least one image” as recited by Claim 1. (emphasis added). To the contrary, *Humphreys* apparently discloses that the “synchronization” referred to by the Examiner occurs at the graphics accelerator of *Humphreys*. Accordingly, neither *Lett* nor *Humphreys*, alone or in combination, discloses, teaches or suggests the limitations recited by independent Claim 1 and, therefore, for at least this reason, Applicant respectfully submits that the rejection of Claim 1 is improper and should be withdrawn.

Claims 2-3 and 6 depend from independent Claim 1 and add additional elements that further distinguish *Lett* and *Humphreys*. For at least the reasons stated above, Claim 1 is in condition for allowance. Therefore, Claims 2-3 and 6 are also in condition for allowance, and Applicant respectfully requests that the rejection of Claims 2-3 and 6 be withdrawn.

Independent Claim 10 recites a “traffic controller . . . operable to collect the second set of data from the plurality of second resource units and synchronize the collected data.” (emphasis added). Independent Claim 19 recites a “controller means . . . operable to synchronize and composite the plurality of second data.” (emphasis added). Independent

Claim 25 recites “receiving the plurality of sets of rendered pixel data synchronizing the plurality of sets of pixel data for an image frame from different sources and compositing pixel data associated with the same image frames into at least one image.” (emphasis added). As discussed above in connection with independent Claim 1, Applicant respectfully submits that neither *Lett* nor *Humphreys*, alone or in combination, discloses, teaches or suggests a “traffic controller,” or “controller means,” for “synchronizing” received data or “compositing” the synchronized data. Therefore, Applicant respectfully submits that neither *Lett* nor *Humphreys*, alone or in combination, discloses, teaches or suggests the limitations recited by independent Claims 10, 19 or 25 and, therefore, for at least this reason, Applicant respectfully submits that the rejection of Claims 10, 19 and 25 is improper and should be withdrawn.

Further, independent Claim 32 recites “a network compositor communicatively coupled to the plurality of local compositors via a network and operable to synchronize and composite graphics data received from the plurality of local compositors into at least one graphical image.” (emphasis added). As discussed above in connection with independent Claim 1, Applicant respectfully submits that neither *Lett* nor *Humphreys*, alone or in combination, discloses, teaches or suggests a “network compositor . . . operable to synchronize and composite graphics data received from” multiple sources as recited by independent Claim 32. Additionally, neither *Lett* nor *Humphreys*, alone or in combination, discloses, teaches or suggests “local compositors” and a “network compositor” for “synchroniz[ing] and composit[ing] graphics data received from the plurality of local compositors” as recited by independent Claim 32. Therefore, for at least these reasons, the rejection of Claim 32 should be withdrawn.

Claims 11, 15 and 17-18 that depend from independent Claim 10, Claims 20 and 22-23 that depend from independent Claim 19, and Claim 26 that depends from independent Claim 25 add additional elements that further distinguish *Lett* and *Humphreys*. For at least the reasons stated above, Claims 10, 19 and 25 are in condition for allowance. Therefore, Claims 11, 15, 17-18, 20, 22-23 and 26 are also in condition for allowance, and Applicant respectfully requests that the rejection of Claims 11, 15, 17-18, 20, 22-23 and 26 be withdrawn.

Claims 4, 16 and 21 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lett and Humphreys, as applied to claim 1, and further in view of Anselmo Lastra et al., *Harnessing Parallelism for High-Performance Interactive Computer Graphics*. Claims 5 and 29 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lett and Humphreys, as applied to claim 1, and further in view of U.S. Patent No. 6,608,628 issued to Ross et al. (hereinafter "Ross"). Claims 7-9, 12-14, 27-28, and 33-35 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lett and Humphreys, as applied to claim 1, and further in view of U.S. Patent No. 6,622,171 issued to Gupta et al. (hereinafter "Gupta") and FOLDOC (free on-line dictionary of computing terms). Claims 24, and 30-31 were rejected under 35 U.S.C. §103(a) as being unpatentable over Lett and Humphreys, as applied to claims 19 and 25, and further in view of Gupta and Ross. Applicant respectfully traverses these rejections.

Claims 4-5 and 7-9 depend from independent Claim 1, Claims 12-14 and 16 depend from independent Claim 10, Claims 21 and 24 depend from independent Claim 19, Claims 27-31 depend from independent Claim 25, and Claims 33-35 depend from independent Claim 32. For at least the reasons discussed above, independent Claim 1, 10, 19, 25 and 32 are in condition for allowance and, therefore, Claims 4-5, 7-9, 12-14, 16, 21, 24, 27-31 and 33-35 that respectively depend from independent Claims 1, 10, 19, 25 and 32 are also in condition for allowance. Therefore, Applicant respectfully requests that the rejection of Claims 4-5, 7-9, 12-14, 16, 21, 24, 27-31 and 33-35 be withdrawn.

CONCLUSION

Applicant has made an earnest attempt to place this case in condition for immediate allowance. For the foregoing reasons and for other reasons clearly apparent, Applicant respectfully requests reconsideration and full allowance of all pending claims.

No fee is believed due with this Response. If, however, Applicant has overlooked the need for any fee due with this Response, the Commissioner is hereby authorized to charge any fees or credit any overpayment associated with this Response to Deposit Account No. 08-2025 of Hewlett-Packard Company.

Respectfully submitted,

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